

## In memory of Professor Józef Markowski, an anatomist from Lvov

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### INTRODUCTION

I write these recollections inspired by the desire to commemorate one of two professors who used to teach at the Department of Descriptive Anatomy in Lvov, a department which existed for a brief 46 years, from 1893/94 to 1939. Finding letters that Professor Józef Markowski and I exchanged between the years 1945–1947 has prompted me to write about the life and accomplishments of Professor Markowski (Fig. 1).

My association with Professor Markowski began in the spring of 1936, during my third year of studies at the Faculty of Medicine in Lvov. I decided to

volunteer at the Department of Anatomy and was welcomed by Professor Markowski with great enthusiasm and none of the expected reservations. Within 2 years I would be entrusted with the title of Deputy Assistant at the department. After leaving Lvov in September 1945 to work as an assistant at the Department of Anatomy in Cracow, I began an exchange of correspondence with Professor Markowski. The letters which have inspired the following account date from October 15<sup>th</sup> 1945 to April 21<sup>st</sup> 1947, with the last letter coming a month or so before his death (Fig. 2).



**Figure 1.** Janina Sokołowska-Pituch (1936; 3<sup>rd</sup> year of study).



**Figure 2.** Józef Markowski, Professor of Anatomy (1874–1947).



**Figure 3.** Inauguration of the academic year in the Main Hall of the Jan Kazimierz University in Lvov.



**Figure 4.** Lecture hall in the Gynaecology Clinic.

### **HISTORY OF THE DEPARTMENT OF DESCRIPTIVE ANATOMY AND TOPOGRAPHY IN LVOV**

The history of the Department of Descriptive and Topographic Anatomy is very much intertwined with the history of the Faculty of Medicine at the University of Lvov. Paraphrasing Włodzimierz Zwoździak, writing in Polish in 1964: "The year 1894 will forever remain a memorable date in the history of the University of Lvov" (Fig. 3).

After nearly 100 years of fluctuating fortunes for the Alma Mater in Lvov, after numerous attempts by Polish delegates in Congress and after numerous efforts made by the Academic Senate, the Uni-

versity of Lvov was completed with the introduction of the Faculty of Medicine. On 9<sup>th</sup> September, in the presence of a large gathering of government officials and members of the scientific community, the Academy of Letters and Sciences, the Jagiellonian University, the University of Vienna in Graz and in Czerniowce and the University of Technology, the Emperor Franz Josef I ceremoniously opened the Faculty of Medicine in Lvov (Fig. 4).

### **ADMINISTRATION OF THE DEPARTMENT OF ANATOMY**

The first Professor of Descriptive and Topographical Anatomy in Lvov was Professor Henryk Kadyi,

a student of the renowned anatomist from Cracow, Ludwik Teichmann. Born in 1831 in Przemyśl, Professor Kadyi studied medicine in Cracow and Vienna before receiving his doctorate in Anatomy in 1878. He became the first Professor of Anatomy at the University of Lvov when the Faculty of Medicine was created in 1894. He would go on to become Dean of Medicine in 1896 and Rector of the University by 1898. He was the founder and editor of the journal "Polish Archives of Medical and Biological Studies" (translated title), which was geared towards the publication of research carried out by Polish researchers. Professor Kadyi died in 1912 and his position as head of the Department of Anatomy was taken over by his student Professor Markowski.

### **A BIOGRAPHY OF PROFESSOR JÓZEF MARKOWSKI**

Józef Markowski was born on October 27<sup>th</sup> 1874 in Lvov. He finished middle school in Stryj in 1873 and in the same year embarked on studies in philosophy at the University of Lvov (the Jan Kazimierz University). After two years of study he entered the Faculty of Medicine. He would complete his studies in philosophy after he became a doctor and even took steps to become a teacher in natural history, mathematics and physics.

During his studies in medicine Józef Markowski began to work at the Department of Anatomy with Professor Kadyi, first as a demonstrator and later as a junior and senior assistant. Between 1900 and 1902 he worked in the Department of Pathology as a senior assistant and by 1905 he had been awarded a doctorate in Descriptive and Topographical Anatomy. He left Lvov in 1906 to continue his studies in Austria and Italy. While abroad he furthered his knowledge of embryology under Professor Hochstetter in Innsbruck and studied comparative anatomy with Professor Heider. It was during this period that he acquainted himself with new techniques used to conduct anatomical research, which he would later use in his research dealing with the development of the venous sinuses of the dura mater. In Italy he studied zoology in Naples and Trieste, experiences which would lead him to lecture in anatomy and histology at the Academy of Veterinary Sciences in Lvov from 1907 onwards. In 1913 he took over the Department of Descriptive and Topographical Anatomy at the University in Lvov, concurrently becoming Assistant Professor of Histology and Embryology at the Academy of Veterinary Scienc-



**Figure 5.** Part of the Anatomy Lecture Hall — Prof. Markowski.

es. In 1921 he was appointed Professor of Anatomy at the University of Poznań and helped to set up the newly formed Department of Anatomy in Poznań, along with its Anatomical Museum. He was nominated to an honorary doctorate in Poznań for his valuable work in 1922. Professor Markowski would go on to become the Dean of Medicine in Lvov, a member of the Polska Akademia Umiejętności and Commander of the Order of Polonia Restituta (Fig. 5).

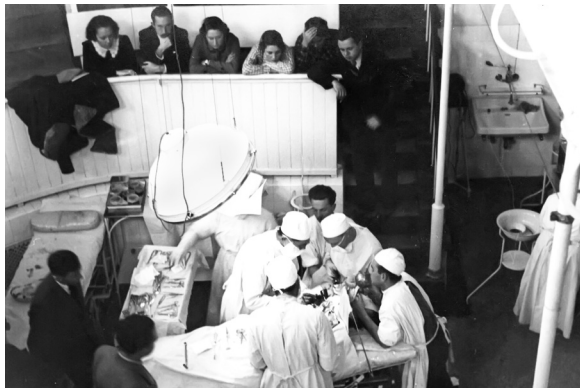
### **THE ACTIVITY OF PROFESSOR MARKOWSKI AS ADMINISTRATOR OF THE INSTITUTE**

As mentioned earlier, Professor Markowski took over the directorship of the Department of Descriptive and Topographical Anatomy in Lvov in 1913 and was its head until 1939. The institute was young and lacking in tradition and esteem, but under his guidance the department began to rise in prominence (Fig. 6).

Needless to say, he experienced many adversities during his many years of tenure of the position, including two world wars. In 1914, with the beginning of the First World War, the Department closed and many professors ended up fleeing from Lvov. Professor Markowski, while attending to the needs of the Departments of Anatomy, Histology and Embryology, worked in the Surgical Department of the Red Cross (alongside Professor Herman), and later



**Figure 6.** “A delivery” — J. Sokołowska-Pituch (second from the right).



**Figure 7.** Demonstration in the Gynaecology Lecture Room.

helped out at the Department of Hygiene and Bacteriology with Professor Kucera as a volunteer and assistant until 1918. He also worked in a laboratory producing vaccines for smallpox, rabies and typhoid fever.

After the war times were difficult on the eastern borderland created by Ukrainian hostility in 1918–1920. Soon afterwards Professor Markowski was involved in running the Institute in Poznań and was therefore not able to see to his own Institute until 1922. The following years were prosperous and beneficial for the Institute. The Department expanded and increased the scope of its studies to include laboratories for macrophotography, microphotography and embryology. X-ray equipment was installed in the Department, which helped greatly in the innovative research conducted first by Professor Markowski and later by his student and future professor,



**Figure 8.** Dissection of the brain — pathologist Prof. Nowicki

Dr. Marciniak (Fig. 7). The museum grew in size and a library devoted to morphology was created, which would become the largest of its type in Poland. This renaissance lasted until the outbreak of the Second World War (Fig. 8).

Józef Markowski began his career in research following in the footsteps of Professor Kadyi. His first series of works was centred on the development of the sternum and its ossification. His main work on this subject includes over a hundred pages of text

and is an example of the academic courage of its author and his abilities as a leading scientist and researcher. These were first brought to light in a journal started by Professor Kadyi and entitled "Polish Archives of Biological and Medical Research." Later the work also appeared in the Polish journal "Kosmos" and was even translated into German. Another important and valuable body of work developed by Professor Markowski centred on the development of the meninges and cranial sinuses. These works were published between 1911 and 1922 and their main focus was the study of the venous sinuses in the dura mater and the venous drainage of the brain. To this day this body of work is the leading authority on meninges in Polish anatomical literature.

I have referred to two main areas of study conducted by Professor Markowski, but there are many others worth mentioning. Among these are a series of experiments using animals, which studied the effects of nicotine on regions of the brain controlling breathing and vasomotor reflexes. Markowski also studied the effects of administering various substances to dogs and their effects on the collateral circulation after aortic ligation. Sadly, most of his research was never published, including his research on lymphatics, which was based on preparations made by the legendary Professor Teichmann. Professor Markowski also participated actively in the presentation and writing of certain volumes of Adam Bochenek's "Human Anatomy". After Bochenek's death, many of these volumes appeared in print and work carried out by Professor Markowski could be found among input from many leading anatomists of that time.

Professor Markowski never forgot his teacher and was the author of two works commemorating Henryk Kadyi entitled "Henryk Kadyi — Post Humus Recollections" and "Academic Accomplishments of Henryk Kadyi", which would appear in "Kosmos" and "Tygodnik Lekarski".

Professor Markowski habilitated 3 assistant professors during his career. In 1914 he habilitated Edward Loth, who would end up running the Department of Anatomy in Warsaw, and in 1930 he habilitated his co-worker Tadeusz Marciniak, who would go on to be a professor in Lvov and Wrocław. In 1939 he habilitated Marian Kostowiecki, who was to go to Edinburgh during the war and become co-founder of



**Figure 9.** Three anatomists: "the lion" — Prof. Markowski, "the hyena" — Prof. Marciniak and "the hawk" — Assoc. Prof. Kostowiecki.

the Polish Department of Medicine before lecturing at the Philadelphia School of Medicine (Fig. 9).

I was too young to become habilitated before the Second World War. However, after the war I became Professor and Director of the Department of Anatomy in Cracow. I remember the Department of Anatomy in Lvov with much nostalgia and I always came to the Institute with zeal and pleasure. The atmosphere was very inviting; it was a peaceful working environment and committed to learning and research.

With the outbreak of another world war, the University closed and the Department of Anatomy was taken over by occupying forces and transformed into an educational centre for students from the east. Eventually Professor Markowski became ill and left Lvov and the Department which had been part of his life for almost 30 years. It seems that the last few years of his life were very sad, but as I reread his letters I note that he never showed any weakening in his demeanour; his spirit for acquiring knowledge and teaching medical students never wavered. The letters I exchanged with Professor Markowski date from October 1945 to April 1947. His last letter came barely a month before his death. In a letter of January 1946, Professor Markowski mentions that he is still working on a book on the anatomy of the brain, rewriting hard passages to make them more understandable to students. He remained a great Professor of Anatomy until his last days, an achievement which we should all commemorate.